

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A cleaning method of an apparatus for manufacturing a semiconductor device, comprising:

providing a first cleaning gas and a second cleaning gas into ~~a chamber~~ the apparatus, and forming a mixture of the first cleaning gas and the second cleaning gas, the first cleaning gas including a fluorocarbon gas and an oxygen gas, the second cleaning gas including one of N₂O and NO ~~nitrogen~~;

activating the mixture of the first cleaning gas and the second cleaning gas by a high frequency power; and

exhausting residues cleaned by the activated mixture and remaining gases.

2. (Original) The method according to claim 1, wherein the fluorocarbon gas is one of C₃F₈, C₄F₈ and C₄F₈O.

3. (Canceled) The method according to claim 1, wherein the second cleaning gas includes one of N₂, N₂O and NO.

4. (Original) The method according to claim 1, wherein a flow rate of the fluorocarbon gas to the oxygen gas is within a range of 0.1 to 0.5.

5. (Original) The method according to claim 1, wherein a flow rate of the second cleaning gas to the first cleaning gas is within a range of 0.01 to 0.5.

6. (Original) The method according to claim 1, wherein the mixture of the first cleaning gas and the second cleaning gas is activated in a plasma generator outside the chamber.

7. (Original) The method according to claim 1, wherein the mixture of the first cleaning gas and the second cleaning gas cleans silicon, silicon nitride and silicon oxide in the chamber.

8. (Currently amended) A cleaning method of an apparatus for manufacturing a semiconductor device, comprising:

activating a first cleaning gas by a high frequency power, the first cleaning gas including a fluorocarbon gas and an oxygen gas;

activating a second cleaning gas by a high frequency power, the second cleaning gas including one of N₂O and NO ~~nitrogen~~;

mixing the activated first cleaning gas and the activated second cleaning gas, thereby forming a mixture of the first cleaning gas and the second cleaning gas; and

exhausting residues cleaned by the mixture and remaining gases.

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9. (Original) The method according to claim 8, wherein the fluorocarbon gas is one of C_3F_8 , C_4F_8 and C_4F_8O .

10. (Canceled) The method according to claim 8, wherein the second cleaning gas includes one of N_2 , N_2O and NO .

11. (Original) The method according to claim 8, wherein a flow rate of the fluorocarbon gas to the oxygen gas is within a range of 0.1 to 0.5.

12. (Original) The method according to claim 8, wherein a flow rate of the second cleaning gas to the first cleaning gas is within a range of 0.01 to 0.5.

13. (Currently amended) The method according to claim 8, wherein the mixture of the first cleaning gas and the second cleaning gas cleans silicon, silicon nitride and silicon oxide in ~~[[the]]~~ a chamber of the apparatus.